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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/867,307

05/29/2001

Samuel Shiber

Th5

6139

30608

7590

12/22/2003

SAMUEL SHIBER

365 KEARNEY CR

MANCHESTER, NH 03104

EXAMINER

ODLAND, KATHRYN P

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 12/22/2003

#3 Remail

Please find below and/or attached an Office communication concerning this application or proceeding.



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09/867,307	05/29/2001	Samuel Shiber	Th5	6139
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SAMUEL SHIBER 365 KEARNEY CR MANCHESTER, NH 03104			ODLAND, KATHRYN P	
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3

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Office Action Summary

Application No.

09/867,307

Applicant(s)

SHIBER, SAMUEL

Examiner

Kathryn Odland

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: element 67. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The term comprising should be avoided in the abstract.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 3, 28, and 33 are rejected under 35 U.S.C. 102(a and/or e) as being anticipated by Demarais et al. in US Patent No. 6,454,775.

Regarding claim 3, Demarais et al. disclose an apparatus for extracting an obstruction located in a patient's vessel by fragmenting the obstruction and conveying fragments of the obstruction through the apparatus and out of the patient's body having a flexible-tube (such as 12, 102, etc.), having an open distal end, and is connectable to a negative pressure, as discussed in column 8, lines 32-46 and column 9, lines 53-67; a motor-rotateable flexible conveyor-shaft (such as 22, 104, etc.) that is disposed in the flexible tube at least a part of the flexible conveyor-shaft being a spiral wire, the direction of spiral is such that as it rotates relative to the flexible tube it conveys the obstruction fragments, cooperatively with the negative pressure, from the open distal end through the flexible tube (such as 12, 102, etc.); a clearance (such as 103) between the flexible conveyor-shaft (such as 104) and the flexible tube (such as 102) being large enough so that the flexible conveyor-shaft rotates freely in the flexible tube and small enough so that the flexible conveyor-shaft radially supports the flexible tube to prevent it from kinking while the apparatus operates in a curved vessel, as seen in figures such as 5A; an offset agitator (such as 110) that at least partially extends out of the open distal end of the flexible-tube (such as 102) being connected to and rotated by the distal end

of the flexible conveyor-shaft to fragment the obstruction while rotating with an effective diameter that is larger than its cross-sectional diameter, as recited in columns 8-10 and seen in figures 1-9.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 5, 8, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demarais et al. in US Patent No. 6,454,775 in view of Straub in US Patent No. 5,876,414.

Regarding claim 1, Demarais et al. disclose an apparatus for extracting an obstruction located in a patient's vessel by fragmenting the obstruction and conveying fragments of the obstruction through the apparatus and out of the patient's body, having a flexible-tube (such as 12, 102, etc.), having an open distal end, and is connectable to a negative pressure, as discussed in column 8, lines 32-46 and column 9, lines 53-67; a motor-rotateable flexible conveyor-shaft (such as 22, 104, etc.) that is disposed in the flexible tube at least a part of the flexible conveyor-shaft is a spiral wire with gaps between its coils to enable the spiral to convey fragments, the direction of the spiral is such that as it rotates relative to the flexible tube it conveys the fragments, cooperatively with the negative pressure, from the open distal end through the flexible tube, as recited

in columns 8-10; and an offset agitator (such as 40, etc.) that at least partially extends out of the open distal end of the flexible-tube being connected to and rotated by the distal end of the flexible conveyor-shaft to fragment the obstruction while rotating with an effective diameter that is larger than its cross-sectional diameter, as recited in columns 8-11 and seen in figures 1-9.

However, Demarais et al. do not explicitly recite a flexible conveyor-shaft and the offset agitator are a continuous spiral wire formed from flattened wire, the conveyor-shaft being made of the flattened wire wound on its edge and the offset agitator being made from the flattened wire wound on its side and wherein the conveyor-shaft and the offset agitator are connected one the other by a short section of twisted wire that is an integral part of the spiral wire that does not block fragments from entering the gaps between the coils of the conveyor shaft.

On the other hand, Straub teaches a flexible conveyor-shaft that is a continuous spiral wire formed from flattened wire, the conveyor-shaft being made of the flattened wire wound on its edge continuing up to the end-effector. Thus it would be obvious to one with ordinary skill in the art to modify the invention of Demarais et al. to include a continuous conveyor-shaft of flattened wire wound on its edge for the purpose of stronger structure to promote better fragment removal. Further, it would be obvious to one with ordinary skill in the art and within the scope of the invention and modification to have the flexible conveyor-shaft and the offset agitator be a continuous spiral wire formed from flattened wire, the conveyor-shaft being made of the flattened wire wound on its edge and the offset agitator being made from the flattened wire wound on its side

and wherein the conveyor-shaft and the offset agitator are connected one the other by a short section of twisted wire that is an integral part of the spiral wire that does not block fragments from entering the gaps between the coils of the conveyor shaft.

Regarding claim 5, Demarais et al. as modified by Straub disclose that as applied to claim 1, as well as, Straub teaches a cross-section of an outer diameter of the flexible conveyor-shaft is larger than the cross-section of an outer diameter of the offset agitator, as seen in figure 3. Thus, it would be obvious to one with ordinary skill in the art at the time the invention was made to further modify the invention of Demarais et al. to have an outer diameter of the flexible conveyor-shaft is larger than the cross-section of an outer diameter of the offset agitator, as taught by Straub, for the purpose of the ability to move the offset agitator within the flexible conveyor-shaft.

Regarding claim 8, Demarais et al. as modified by Straub disclose that as applied to claim 1, as well as a flexible conveyor-shaft (such as 104, etc) that is made from a spiral wire with gaps between its coils to enable the spiral to engage with and convey the fragments and wherein an outer surface of the offset agitator is uninterrupted to reduce its likelihood of entanglement inside the vessel, as recited in columns 8-10 and seen in figures 1-9.

Regarding claim 10, Demarais et al. as modified by Straub disclose that as applied to claim 1, as well as, Demarais teaches a portion of the offset agitator (via 108)

that comes in contact with a wall of the vessel that is smooth. Further it would be obvious to one with ordinary skill in the art to have another portion of the surface of the offset agitator is rough for the purpose of removing an obstruction while not harming the vessel.

Regarding claims 11 and 12, Demarais et al. as modified by Straub disclose that as applied to claim 1 and it would be further obvious to one with ordinary skill in the art to further modify the invention to have the flexible-tube transmit light along/across its wall, for the purpose of enhanced visualization.

Regarding claim 13, Demarais et al. as modified by Straub disclose that as applied to claim 1, as well as, an introducer (via the catheter) having an inlet port that is connected to a pressurized fluid through a flexible line and the evacuation port that is connected to the negative pressure through a flexible line, wherein the flexible lines pass through valves that shut off the flow through the lines when the motor is selectively disabled, as discussed in columns 8-10 and seen in figures 1-9.

7. Claims 2, 4, 15-27, 29-32, 34-42, 43, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demarais et al. in US Patent No. 6,454,775 in view of Shturman et al. in US Patent No. 6,217,595.

Regarding claim 2, Demarais et al. disclose an apparatus for extracting an obstruction located in a patient's vessel by fragmenting the obstruction and conveying

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fragments of the obstruction through the apparatus and out of the patient's body having a flexible-tube (such as 10, 102, etc.), having an open distal end, and is connectable to a negative pressure, as discussed in columns 8-10; a motor-rotateable flexible conveyor-shaft (such as 22, 104, etc.) that is disposed in the flexible tube at least a part of the flexible conveyor-shaft is a spiral wire with gaps between its coils to enable the spiral to convey fragments, the direction of the spiral is such that as it rotates relative to the flexible tube it conveys the fragments, cooperatively with the negative pressure, from the open distal end through the flexible tube; an offset agitator (such as 40, etc.) that at least partially extends out of the open distal end of the flexible-tube being connected to and rotated by the distal end of the flexible conveyor-shaft to fragment the obstruction while rotating with an effective diameter that is larger than its cross-sectional diameter, as recited in columns 8-11 and seen in figures 1-9.

However, Demarais et al. do not recite an offset agitator with gaps between its coils that are substantially smaller than the gaps between the coils of the flexible conveyor-shaft. On the other hand, Shturman et al. teach an offset agitator with gaps between its coils that are substantially smaller than the gaps between the coils of the flexible conveyor-shaft. Thus it would be obvious to one with ordinary skill in the art at the time the invention was made to modify that of Demarais et al. to include an offset agitator with gaps between its coils that are substantially smaller than the gaps between the coils of the flexible conveyor-shaft for the purpose of proper stability of the offset agitator while sufficient space and proper flow for material removal.

Regarding claim 4, Demarais et al. disclose an apparatus for extracting an obstruction located in a patient's vessel by fragmenting the obstruction and conveying fragments of the obstruction through the apparatus and out of the patient's body having a flexible-tube (such as 10, 102, etc) having an open distal end, and connectable to a negative pressure, as discussed in column 8, lines 32-46 and column 9, lines 53-67; a motor-rotateable flexible conveyor-shaft (such as 22, 104, etc.) that is disposed in the flexible tube (such as 10, 102, etc) at least a part of the flexible conveyor-shaft is a spiral wire, the direction of spiral is such that as it rotates relative to the flexible tube it conveys the obstruction fragments, cooperatively with the negative pressure, from the open distal end through the flexible tube, as discussed in columns 8-10; an offset agitator (such as 40, etc.) that at least partially extends out of the open distal end of the flexible-tube being connected to and rotated by the distal end of the flexible conveyor-shaft to fragment the obstruction while rotating with an effective diameter that is larger than its cross-sectional diameter, as recited in columns 8-10 and seen in figures 1-9.

However, Demarais et al. do not explicitly recite an offset-agitator that can be moved in and out of the flexible tube, through the open distal end, to adjust the effective diameter of the offset agitator. On the other hand, Demarais et al. teach a sheath or sleeve or bearings (such as 46, etc. and that seen in figures 5A-5B) that allows the diameter of the agitator to be adjusted. Thus, it would be obvious to one with ordinary skill in the art to modify the invention of Demarais et al. to include an offset-agitator that can be moved in and out of the flexible tube, through the open distal end, to adjust the effective diameter of the offset agitator for the purpose of eliminating extra components.

Regarding claims 15, 25 and 35, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as, Shturman et al. teach a cross-section of an outer diameter of the flexible conveyor-shaft that is larger than the cross-section of an outer diameter of the offset agitator. Thus, it would be obvious to further modify the invention of Demarais et al. to have a cross-section of an outer diameter of the flexible conveyor-shaft that is larger than the cross-section of an outer diameter of the offset agitator, as taught by Shturman et al. for the purpose of moving the offset agitator within the conveyor-shaft.

Regarding claims 16, 26, and 36, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as, Shturman et al. teach a flexible conveyor-shaft and the offset agitator that are a continuous spiral wire (continuous outer spiral wire) and Demarais et al. show a distal tip of the offset agitator that is rounded. Thus, it would be obvious to one with ordinary skill in the art to further modify the invention of Demarais et al. to have a flexible conveyor-shaft and the offset agitator are a continuous spiral wire for the purpose of enhanced removal of debris in a continuous path.

Regarding claims 17, 27, and 37, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as, Shturman et al. demonstrate a flexible conveyor-shaft and an offset

agitator that are a continuous spiral wire (continuous outer wire) and wherein the distal tip of the offset agitator is an integral part of the wire. Thus, it would be obvious to one with ordinary skill in the art to further modify the invention of Demarais et al. to have a flexible conveyor-shaft and the offset agitator are a continuous spiral wire for the purpose of enhanced removal of debris in a continuous path. Further it would be obvious to use melting to form a rounded tip.

Regarding claims 18, 28, and 38, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as, a flexible conveyor-shaft that is made from a spiral wire with gaps between its coils to enable the spiral to engage with and convey the fragments and wherein an outer surface of the offset agitator is uninterrupted to reduce its likelihood of entanglement inside the vessel, as recited in Demarais et al. in columns 8-10 and seen in figures 1-8.

Regarding claims 19, 29, and 39, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as, Shturman et al. teach a flexible conveyor-shaft and an offset agitator that are made from a spiral wire, where the gap between the coils of the flexible conveyor-shaft are substantially larger than the gap between the coils of the offset agitator, as seen in figure 16. Thus, it would be obvious to one with ordinary skill in the art to further modify the invention of Demarais et al. to include a flexible conveyor-shaft

and an offset agitator that are made from a spiral wire, where the gap between the coils of the flexible conveyor-shaft are substantially larger than the gap between the coils of the offset agitator, as taught by Shturman et al. for the purpose of proper strength of the offset agitator and continuous uninterrupted debris removal.

Regarding claims 20, 30, and 40, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as, Demarais et al. teach a portion of the offset agitator (via the cage) that comes in contact with a wall of the vessel is smooth Shturman et al. teach a portion of the surface of the offset agitator that is rough, as seen in figure 3. Thus, it would be obvious to one with ordinary skill in the art to further modify the invention of Demarais et al. to include a portion of the offset agitator that is rough, as taught by Shturman et al. for the purpose of proper debris removal.

Regarding claims 21, 22, 31, 32, 41, and 42 Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3 and a flexible-tube that transmits light across its wall would be obvious to one with ordinary skill in the art for the purpose of increasing visualization.

Regarding claims 23, 33, and 43, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as an introducer (via the catheter) having an inlet port that is connected

to a pressurized fluid through a flexible line and the evacuation port that is connected to the negative pressure through a flexible line, wherein the flexible lines pass through valves that shut off the flow through the lines when the motor is selectively disabled, as discussed in columns 8-10 and seen in figures 1-9.

Regarding claims 24, 34, and 44, Demarais et al. as modified by Shturman et al. disclose that as applied to claims 2 and 4 and Demarais et al. disclose that as applied to claim 3, as well as, Shturman et al. teach a flexible conveyor-shaft and the offset agitator that are a continuous spiral wire that define a continuous passage that can accommodate a guidewire over which the flexible conveyor-shaft and the offset agitator can slide, as seen in figures such as 16. Thus, it would be obvious to one with ordinary skill in the art to further modify the invention of Demarais et al. to include a flexible conveyor-shaft and the offset agitator that are a continuous spiral wire that define a continuous passage that can accommodate a guidewire over which the flexible conveyor-shaft and the offset agitator can slide, as taught by Shturman et al. for the purpose of proper debris removal.

8. Claims 6, 7, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demarais et al. in US Patent No. 6,454,775 in view of Straub in US Patent No. 5,876,414 and further in view of Shiber in US Patent No. 5,334,211.

Regarding claim 6, Demarais et al. as modified by Straub disclose that as applied to claim 1, as well as, a distal tip of the offset agitator that is rounded. However, a

flexible conveyor-shaft and an offset agitator that are a continuous spiral wire. On the other hand, Shiber teaches a conveyor-shaft and an offset agitator that are a continuous spiral wire as seen in figure 2. Thus, it would be obvious to one with ordinary skill in the art to modify the invention of Demarais et al. as modified by Straub to further have a flexible conveyor-shaft and an offset agitator that are a continuous spiral wire, as taught by Shiber for the purpose of a continuous flow path for the removal of debris.

Regarding claim 7, Regarding claim 6, Demarais et al. as modified by Straub disclose that as applied to claim 1. However, a flexible conveyor-shaft and an offset agitator that are a continuous spiral wire and wherein the distal tip of the offset agitator is an integral part of the wire that has been melted to form a rounded tip, has not been recited. On the other hand, Shiber teaches a conveyor-shaft and an offset agitator that are a continuous spiral wire as seen in figure 2. Thus, it would be obvious to one with ordinary skill in the art to modify the invention of Demarais et al. as modified by Straub to further have a flexible conveyor-shaft and an offset agitator that are a continuous spiral wire, as taught by Shiber for the purpose of a continuous flow path. Further, a distal tip of the offset agitator is an integral part of the wire that has been melted to form a rounded tip would also be obvious to one with ordinary skill in the art.

Regarding claim 14, Demarais et al. as modified by Straub disclose that as applied to claim 1, as well as the use of a guidewire. However, a flexible conveyor-shaft and an offset agitator that are a continuous spiral wire that define a continuous passage

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that can accommodate a guidewire over which the flexible conveyor-shaft and the offset agitator can slide has not been recited. On the other hand, Shiber teaches a conveyor-shaft and an offset agitator that are a continuous spiral wire as seen in figure 2. Thus, it would be obvious to one with ordinary skill in the art to modify the invention of Demarais et al. as modified by Straub to further have a flexible conveyor-shaft and an offset agitator that are a continuous spiral wire, as taught by Shiber for the purpose of a continuous flow path. Further, a continuous passage that can accommodate a guidewire over which the flexible conveyor-shaft and the offset agitator can slide would be within the scope.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Demarais et al. in US Patent No. 6,454,775 in view of Straub in US Patent No. 5,876,414 and further in view of Shturman et al. in US Patent No. 6,217,595.

Regarding claim 9, Demarais et al. as modified by Straub disclose that as applied to claim 1, as well as Demarais et al. disclose a flexible conveyor-shaft and an offset agitator that are made from a spiral wire. However a gap between the coils of the flexible conveyor-shaft are substantially larger than gap between the coils of the offset agitator has not been recited. On the other hand, Shturman et al. teach a gap between the coils of the flexible conveyor-shaft are substantially larger than gap between the coils of the offset agitator, as seen in figure 16. Thus, it would be obvious to one with ordinary skill in the art at the time the invention was made to further modify the invention to include a gap between the coils of the flexible conveyor-shaft are substantially larger

than gap between the coils of the offset agitator, as taught by Shturman et al. for the purpose of continuous flow for debris removal.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-6, 8-10, 14-16, 18-20, 24-26, 28-30, and 34-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, and 7-9, of U.S. Patent No. 6,482,215. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are merely reworded representations for the same subject matter, perhaps slightly broader in some aspects, while slightly more narrow in others.

12. Claims 1-6, 8-10, 14-16, 18-20, 24-26, 28-30, and 34-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,143,009. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are merely

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reworded representations for the same subject matter, perhaps slightly broader in some aspects, while slightly more narrow in others.

Conclusion

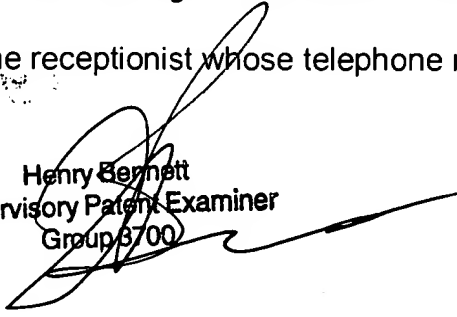
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are as follows: US 2003/0216761; US 2003/0187468; US 2003/0191483; US 2003/0028206; US Patent No. 6,620,172; US Patent No. 6,602,264; US Patent No. 6,440,148; US Patent No. 6,322,572; US Patent No. 6,156,046; US Patent No. 6,036,708; US Patent No. 5,195,954; and US Patent No. 4,030,503.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathryn Odland whose telephone number is (703) 306-3454. The examiner can normally be reached on M-F (7:30-5:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry A Bennett can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Henry Bennett
Supervisory Patent Examiner
Group 3700



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